

FABRICATION, PERFORMANCE TESTING, AND
SCREENING OF THREE DIMENSIONAL ARRAYS OF
MATERIALS

ABSTRACT

[0107] The present invention relates to methods for the fabrication, performance testing and screening of combinatorial libraries of materials arranged as three dimensional arrays. The invention describes the generation and screening of three dimensional arrays by depositing a plurality of samples onto at least one substrate at discrete and defined positions in a three dimensional format such that each sample is isolated by the substrate from the other samples, and wherein each sample is defined by its (x, y, and z) coordinate, collecting analytical data from the sample array, correlating the analytical data collected from the array to the position of samples within the array, and analyzing the analytical data for a parameter of interest. The array may be performance tested for stability to chemical degradation, environmental stress, or other factors. Also described is the use of techniques such as confocal and multi-photon microscopy for the measurement and analysis of samples in the array.